Myeloma Diagnostic Tool
Guidance for Primary Care

Myeloma is a cancer of the bone marrow plasma cells that secrete abnormal antibodies (paraprotein and monoclonal free light chains). Symptoms and signs are often vague and progressive.

Early diagnosis is key to preventing end organ damage, bone disease, and improving survival.

Monoclonal gammopathy of undetermined significance (MGUS) also shows abnormal antibodies, but does not cause organ damage. The risk of progression is low in most patients, however a small number should be monitored in secondary care.

When to suspect myeloma

Any of the following blood test abnormalities:

- Raised **C**alcium
- **R**enal impairment
- **A**naemia
- Raised ESR

Symptom or finding:

- **B**one pain – usually presents as unexplained pain, generalised or localised
- Back pain – persistent or severe/atypical
- Generally unwell – fatigue, weight loss, suspicion of underlying cancer
- Recurrent infections
- Pathological or fragility fractures, e.g. of the vertebra
- Breathlessness – unexplained

Important factors to consider:

Symptoms and findings persist without explanation or despite initial interventions.

Red flags for myeloma investigation include **unexplained** symptoms and **more than one** symptom.

The **CRAB** criteria for myeloma.

What tests to request

- Serum protein electrophoresis for paraprotein
- Serum free light chain (sFLC) assay
  - If unavailable, urine Bence Jones protein (BJP)
- Serum immunoglobulins (IgG, IgA and IgM)
- Full blood count
- Corrected serum calcium
- Serum creatinine

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Please check local referral guidance where available, as there may be variations to the recommendations below.

Response to results

• Any paraprotein/abnormal sFLC ratio **with** significant symptoms indicative of an urgent problem (e.g. spinal cord compression, acute kidney injury)	Recommend referral for **immediate assessment and/or admission** as per local pathways
• Moderate concentration of paraprotein (IgG > 15 g/L, IgA or IgM > 10 g/L) • Identification of an IgD or IgE paraprotein (regardless of concentration) • Significant abnormal sFLC ratio (< 0.1 or > 7) ◦ Identification of BJP	Recommend **urgent suspected cancer (USC) referral** to Clinical Haematology
• Minor concentration of paraprotein (IgG < 15 g/L, IgA or IgM < 10 g/L) **without** relevant symptoms • Minor abnormal sFLC ratio (> 0.1 and < 7, but outside normal range) **without** relevant symptoms This pattern is common in elderly patients	Recommend **recheck** serum and urine in 2–3 months to confirm pattern and assess any progression. Patients whose paraprotein concentration increases (25% and > 5 g/L) or develop symptoms will need an **urgent referral**. **Discuss** with your Clinical Haematology Department if results not clear or concerns.
• No serum paraprotein • Normal sFLC ratio (0.26–1.65)* ◦ No BJP • Normal immunoglobulin levels * some laboratories may have a slightly different reference range	Myeloma very **unlikely** but symptoms may still need to be investigated with other clinical specialties

NICE guideline [NG12] Suspected cancer: recognition and referral https://www.nice.org.uk/guidance/ng12
NICE guideline [NG35] Myeloma: diagnosis and management https://www.nice.org.uk/guidance/ng35

For any queries or additional resources for healthcare professionals on myeloma and related conditions, please visit **academy.myeloma.org.uk** or email us at **earlydiagnosis@myeloma.org.uk**

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